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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

BULLOCK JR, LEWIS ALEXANDER

ART UNIT	PAPER NUMBER
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2126

DATE MAILED: 08/20/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/872,937	Applicant(s) CHANDRA ET AL.	
	Examiner Lewis A. Bullock, Jr.	Art Unit 2126	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-56 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-56 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 18 March 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>3/18/02</u> | 6) <input type="checkbox"/> Other: ____ |

DETAILED ACTION***Specification***

The following guidelines illustrate the preferred layout for the specification of a utility application. These guidelines are suggested for the applicant's use.

Content of Specification

- (a) Title of the Invention: See 37 CFR 1.72(a) and MPEP § 606. The title of the invention should be placed at the top of the first page of the specification unless the title is provided in an application data sheet. The title of the invention should be brief but technically accurate and descriptive, preferably from two to seven words may not contain more than 500 characters.
- (b) Cross-References to Related Applications: See 37 CFR 1.78 and MPEP § 201.11.
- (c) Statement Regarding Federally Sponsored Research and Development: See MPEP § 310.
- (d) Incorporation-By-Reference Of Material Submitted On a Compact Disc: The specification is required to include an incorporation-by-reference of electronic documents that are to become part of the permanent United States Patent and Trademark Office records in the file of a patent application. See 37 CFR 1.52(e) and MPEP § 608.05. Computer program listings (37 CFR 1.96(c)), "Sequence Listings" (37 CFR 1.821(c)), and tables having more than 50 pages of text were permitted as electronic documents on compact discs beginning on September 8, 2000.

Or alternatively, Reference to a "Microfiche Appendix": See MPEP § 608.05(a). "Microfiche Appendices" were accepted by the Office until March 1, 2001.
- (e) Background of the Invention: See MPEP § 608.01(c). The specification should set forth the Background of the Invention in two parts:
 - (1) Field of the Invention: A statement of the field of art to which the invention pertains. This statement may include a paraphrasing of the applicable U.S. patent classification definitions of the subject matter of the claimed invention. This item may also be titled "Technical Field."

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- (2) Description of the Related Art including information disclosed under 37 CFR 1.97 and 37 CFR 1.98: A description of the related art known to the applicant and including, if applicable, references to specific related art and problems involved in the prior art which are solved by the applicant's invention. This item may also be titled "Background Art."
- (f) Brief Summary of the Invention: See MPEP § 608.01(d). A brief summary or general statement of the invention as set forth in 37 CFR 1.73. The summary is separate and distinct from the abstract and is directed toward the invention rather than the disclosure as a whole. The summary may point out the advantages of the invention or how it solves problems previously existent in the prior art (and preferably indicated in the Background of the Invention). In chemical cases it should point out in general terms the utility of the invention. If possible, the nature and gist of the invention or the inventive concept should be set forth. Objects of the invention should be treated briefly and only to the extent that they contribute to an understanding of the invention.
- (g) Brief Description of the Several Views of the Drawing(s): See MPEP § 608.01(f). A reference to and brief description of the drawing(s) as set forth in 37 CFR 1.74.
- (h) Detailed Description of the Invention: See MPEP § 608.01(g). A description of the preferred embodiment(s) of the invention as required in 37 CFR 1.71. The description should be as short and specific as is necessary to describe the invention adequately and accurately. Where elements or groups of elements, compounds, and processes, which are conventional and generally widely known in the field of the invention described and their exact nature or type is not necessary for an understanding and use of the invention by a person skilled in the art, they should not be described in detail. However, where particularly complicated subject matter is involved or where the elements, compounds, or processes may not be commonly or widely known in the field, the specification should refer to another patent or readily available publication which adequately describes the subject matter.
- (i) Claim or Claims: See 37 CFR 1.75 and MPEP § 608.01(m). The claim or claims must commence on separate sheet or electronic page (37 CFR 1.52(b)(3)). Where a claim sets forth a plurality of elements or steps, each element or step of the claim should be separated by a line indentation. There may be plural indentations to further segregate subcombinations or related steps. See 37 CFR 1.75 and MPEP § 608.01(i)-(p).

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- (j) Abstract of the Disclosure: See MPEP § 608.01(f). A brief narrative of the disclosure as a whole in a single paragraph of 150 words or less commencing on a separate sheet following the claims. In an international application which has entered the national stage (37 CFR 1.491(b)), the applicant need not submit an abstract commencing on a separate sheet if an abstract was published with the international application under PCT Article 21. The abstract that appears on the cover page of the pamphlet published by the International Bureau (IB) of the World Intellectual Property Organization (WIPO) is the abstract that will be used by the USPTO. See MPEP § 1893.03(e).
- (k) Sequence Listing. See 37 CFR 1.821-1.825 and MPEP §§ 2421-2431. The requirement for a sequence listing applies to all sequences disclosed in a given application, whether the sequences are claimed or not. See MPEP § 2421.02.

1. The disclosure is objected to because of the following informalities: The disclosure is missing the brief summary of the invention.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this

Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 1, 3-26, 31-35 and 37-56 are rejected under 35 U.S.C. 102(e) as being anticipated by KIDDLER (U.S. Patent 6,694,450).

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As to claim 1, KIDDER teaches a computer implemented method comprising: determining a process state (started / failed / restarted) (via the name server); and indicating from a process state manager (name server) to a plurality of processes (processes / device driver / applications) changes in the process state (col. 20, line 36 – col. 21, line 9; col. 21, lines 42-53; col. 21, line 61 – col. 22, line 8; col. 23, lines 11-35).

As to claim 6, KIDDER teaches a computer implemented method comprising: registering interest of a first process (process / device driver / application) in a second process (process / device driver / application); determining the second process state (started / failed / restarted) (via the name server); and notifying the first process when the second process changes state (col. 20, line 36 – col. 21, line 9; col. 21, lines 42-53; col. 21, line 61 – col. 22, line 8; col. 23, lines 11-35).

As to claim 11, KIDDER teaches a computer implemented method comprising: determining a first process (process / device driver / application) has started (via the process registering with the name server); providing the first process a communication key (process identification information); maintaining (via the name server) the communication key (process identification information) and the first process state (started / failed / restarted) and transmitting the communication key (process identification information) to a second process (process / device driver / application) (col. 20, line 36 – col. 21, line 9; col. 21,

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lines 42-53; col. 21, line 61 – col. 22, line 8; col. 23, lines 11-35; col. 19, lines 29-38).

As to claim 17, KIDDER teaches a computer implemented method comprising: receiving a request for a communication key (process identification information) of a first process (process / device driver / application) from a second process (process / device driver / application); determining the first process state (started / failed / restarted) (via the name server); if the first process is alive (started), then transmitting the communication key (process identification information) for the first process to the second process; if the first process has not started (failed), then indicating to the second process the communication key (process identification information) is not available (indicate that process has failed); receiving a message when the first process starts (process registering with name server); providing the communication key (process identification information) to the first process (col. 22, lines 14-25); and transmitting the communication key (process identification information) to the second process (via process requesting for number) (col. 20, line 36 – col. 21, line 9; col. 21, lines 42-53; col. 21, line 61 – col. 22, line 8; col. 23, lines 11-35).

As to claim 23, KIDDER teaches an apparatus comprising: a processor (board / central processor) to execute a process state manager (name server), a first process (process / device driver / application), and a second process (process / device driver / application), the process state manager (name server)

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to maintain a first communication key (process identification information) for the first process and a second communication key (process identification information) for the second process and to communicate state changes (failed / started / restarted) between the first process and the second process; and a memory coupled to the processor, the memory (via memory subsystem) to store a first state for the first process and a second state for the second process, the first communication key and the second communication key (col. 20, line 36 – col. 21, line 9; col. 21, lines 42-53; col. 21, line 61 – col. 22, line 8; col. 23, lines 11-35; col. 7, lines 7-39).

As to claim 31, reference is made to a machine-readable medium that corresponds to the method of claim 17 and is therefore met by the rejection to claim 17. However, claim 31, further details receiving the first communication key; transmitting signals to the process state manager; and if the communication key is not provided, then requesting notification from the process state manager when the second communication key is available. KIDDER teaches receiving the first communication key (process identification information); transmitting signals (states / failed / started / restarted) to the process state manager (name server); and if the communication key (process identification information) is not provided, then requesting notification from the process state manager (name server) when the communication key is available (register interest) (col. 20, line 36 – col. 21, line 9; col. 21, lines 42-53; col. 21, line 61 – col. 22, line 8; col. 23, lines 11-35; col. 7, lines 7-39; col. 19, lines 29-37).

As to claims 3, 15 and 20, KIDDER teaches registering interest of the plurality of processes (process / device driver / application) in any of the processes (process / device driver / application) (col. 20, line 36 – col. 21, line 9; col. 21, lines 42-53; col. 21, line 61 – col. 22, line 8; col. 23, lines 11-35; col. 7, lines 7-39)

As to claim 4, KIDDER teaches managing a plurality of communication keys (processes identification information) for the processes (via the name server) (col. 20, line 36 – col. 21, line 9; col. 21, lines 42-53; col. 21, line 61 – col. 22, line 8; col. 23, lines 11-35; col. 7, lines 7-39).

As to claims 5, 10, 16 and 22, KIDDER teaches the plurality of processes (process / device driver / application) communicating with any of the processes with a communication key (process identification information) (col. 20, line 36 – col. 21, line 9; col. 21, lines 42-53; col. 21, line 61 – col. 22, line 8; col. 23, lines 11-35; col. 7, lines 7-39).

As to claim 7, KIDDER teaches the process state is either alive (started / restarted) or dead (failed) (col. 20, line 36 – col. 21, line 9; col. 21, lines 42-53; col. 21, line 61 – col. 22, line 8; col. 23, lines 11-35; col. 7, lines 7-39).

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As to claims 8, 21, and 34, KIDDER teaches transmitting a death notification when the process dies (notification that process failed); and transmitting a birth notification when the process starts or restarts (notification of newly assigned process identification number) (col. 20, line 36 – col. 21, line 9; col. 21, lines 42-53; col. 21, line 61 – col. 22, line 8; col. 23, lines 11-35; col. 7, lines 7-39).

As to claim 9, KIDDER teaches providing the second process (process / device driver / application) a communication key (process identification information) when the second process starts (starts / restarts); and transmitting the communication key (process identification information) to the first process (via notify the process of the identification number or providing the identification number to the process) (col. 20, line 36 – col. 21, line 9; col. 21, lines 42-53; col. 21, line 61 – col. 22, line 8; col. 23, lines 11-35; col. 7, lines 7-39).

As to claim 12, KIDDER teaches receiving a request for a communication key when the process starts and restarts (register interest / request connection) (col. 20, line 36 – col. 21, line 9; col. 21, lines 42-53; col. 21, line 61 – col. 22, line 8; col. 23, lines 11-35; col. 7, lines 7-39; col. 19, lines 29-37).

As to claims 13, 18, 24, 28 and 32, KIDDER teaches the communication key (process identification information) includes a process identifier (process name) and an incarnation identifier (process identification number) (col. 20, line

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36 – col. 21, line 9; col. 21, lines 42-53; col. 21, line 61 – col. 22, line 8; col. 23, lines 11-35; col. 7, lines 7-39).

As to claims 14, 19 and 26, KIDDER teaches maintaining the communication key (process identification information) comprises creating a unique process identifier (process name) when the first process initially starts and updating an incarnation identifier part (process identification number) of the communication key each time the first process restarts (col. 20, line 36 – col. 21, line 9; col. 21, lines 42-53; col. 21, line 61 – col. 22, line 8; col. 23, lines 11-35; col. 7, lines 7-39).

As to claims 25, 29, 30, and 33, KIDDER teaches a first and second processor (board / central processors) to execute a plurality of processes (processes / device drivers / applications), the processes to communicate with the first process (a particular process / device driver / application) and to register, i.e. request a communication key (process identification information), with the process state manager (name server) (col. 20, line 36 – col. 21, line 9; col. 21, lines 42-53; col. 21, line 61 – col. 22, line 8; col. 23, lines 11-35; col. 7, lines 7-39).

As to claims 35 and 37-39, reference is made to a machine-readable medium that corresponds to the method of claims 1 and 3-5 and is therefore met by the rejection of claims 1 and 3-5 above.

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As to claims 40-44, reference is made to a machine-readable medium that corresponds to the method of claims 6-10 and is therefore met by the rejection of claims 6-10 above.

As to claims 45-50, reference is made to a machine-readable medium that corresponds to the method of claims 11-16 and is therefore met by the rejection of claims 11-16 above.

As to claims 51-56, reference is made to a machine-readable medium that corresponds to the method of claims 17-22 and is therefore met by the rejection of claims 17-22 above.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 2, 27-30, and 36 are rejected under 35 U.S.C. 103(a) as being unpatentable over KIDDER (U.S Patent 6,694,450) in view of Applicant's Admitted Prior Art (APA).

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As to claim 27, KIDDER teaches an apparatus comprising: a first processor (board / central processor) to host a process state manager (name server), the process state manager to maintain a communication key (process identification information) and a state (failed / started / restarted) for a process (process / device driver / application); and a second processor (another board / another central processor) coupled to the first processor, the second processor to host the process (col. 20, line 36 – col. 21, line 9; col. 21, lines 42-53; col. 21, line 61 – col. 22, line 8; col. 23, lines 11-35). KIDDLER also teaches that the name server manages the state of the processes (failed / started / restarted). However, KIDDLER does not teach that the process periodically transmits heartbeat messages to the state manager.

APA teaches a process periodically sends a heartbeat message and when it doesn't the process is determined to be died (pgs. 2-3, paragraph 0004). It would be obvious that the name server of KIDDLER receives the heartbeat messages as disclosed in the APA to determine if the process has failed, i.e that the process has died, since it is determined if a terminated process does not re-register within a predetermined amount of time, the name server may then notify the subscriber processes of the termination of the failed process (col. 23, lines 32-35). Therefore, It would be obvious to one skilled in the art to combine the teachings of KIDDLER with APA in order to determine the failure of a process.

As to claim 28, refer to claim 13 for rejection.

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As to claims 29 and 30, refer to claim 25 for rejection.

As to claim 2, KIDDER teaches receiving a request for a communication key when the process starts and restarts (register interest / request connection) (col. 20, line 36 – col. 21, line 9; col. 21, lines 42-53; col. 21, line 61 – col. 22, line 8; col. 23, lines 11-35; col. 7, lines 7-39; col. 19, lines 29-37). However, KIDDER does not teach determining expiration of a time period for receiving a heartbeat message when the process dies.

APA teaches a method for determining expiration of a time period for receiving a heartbeat message in order to determine if a process has died (pgs. 2-3, paragraph 0004). It would be obvious to one of ordinary skill in the art that the name server of KIDDLER receives the heartbeat messages as disclosed in the APA to determine if the process has failed, i.e. has died, since it is determined if a terminated process does not re-register within a predetermined amount of time, the name server may then notify the subscriber processes of the termination of the failed process (col. 23, lines 32-35). Therefore, It would be obvious to one skilled in the art to combine the teachings of KIDDLER with APA in order to determine the failure of a process.

As to claim 36, reference is made to a machine-readable medium that corresponds to the method of claim 2 and is therefore met by the rejection of claim 2 above.

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Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lewis A. Bullock, Jr. whose telephone number is (703) 305-0439. The examiner can normally be reached on Monday-Friday, 8:30 am - 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Meng An can be reached on (703) 305-9678. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



LEWIS A. BULLOCK, JR.
PRIMARY EXAMINER

August 4, 2004